SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

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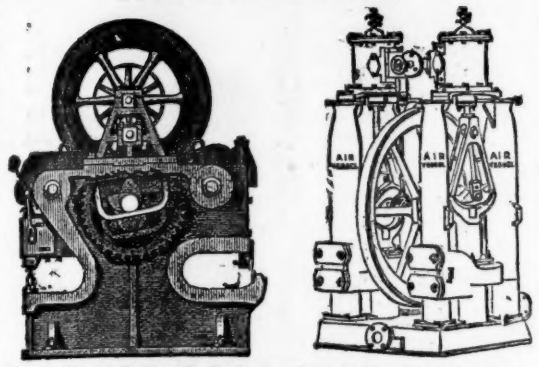

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PARIS, BRONZE MEDAL, 1867. ORDER OF THE CROWN OF PRUSSIA. FALMOUTH, SILVER MEDAL, 1867

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Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24·90, 27·60, 24·80, 26·10, 28·30, 27·10, 28·40, 28·70 metres. Total advance of south heading during January was 121·30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere (7½ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

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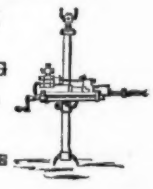

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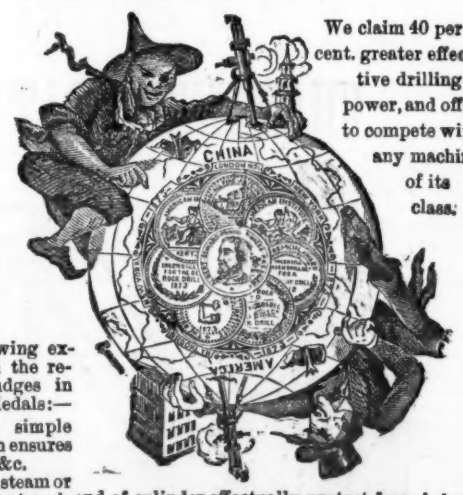

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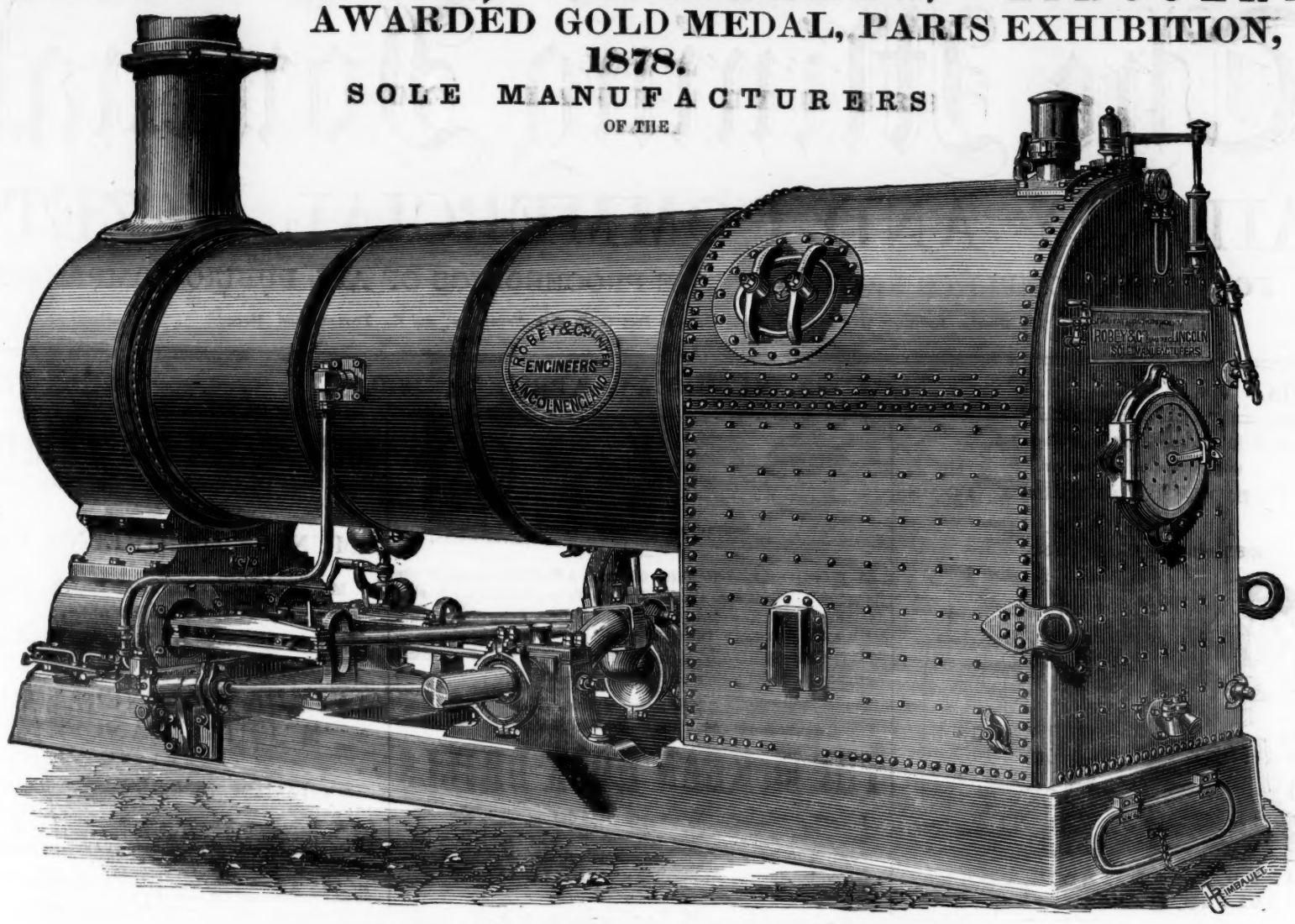

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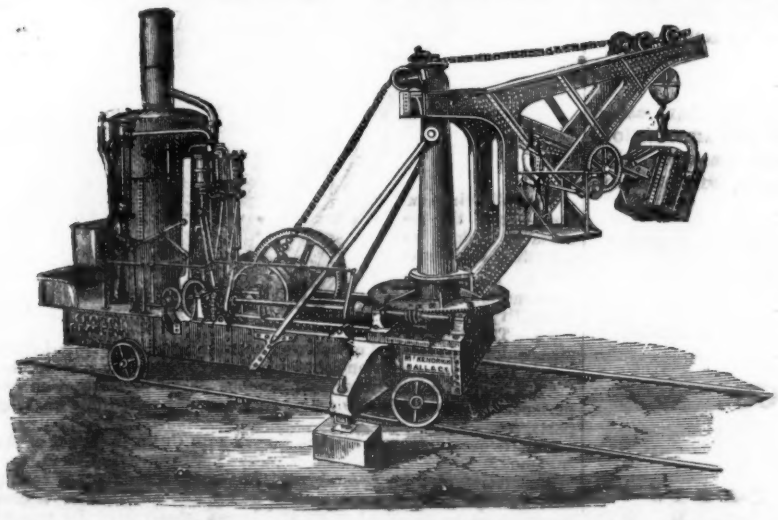

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Original Correspondence.

RAISING SAND FROM CHINA-CLAY.

SIR,—As I see you have noticed my patent sand elevator for china-clay works in the Supplement to last week's Journal, it may be of interest to some of your readers if I mention that the machine has been in regular work at the Bodelva Clayworks for the last four or five months, and has given complete satisfaction, saving fully one shilling per ton on all the clay produced, a somewhat important item in these hard times. The apparatus is also in course of erection at other large works, and as it is simple and inexpensive, and requires no disturbance of existing arrangements, I think its use must soon become general. Taking the average saving at a shilling per ton on all clay produced in the St. Austell district, the machine when fully utilised will add fully 10,000*l.* per annum to the profits of the trade. J. FLETCHER PAGEN, F.G.S.

St. Austell, April 16.

MINING PROSPECTS ON THE PACIFIC COAST.

SIR,—When I last wrote the compromise between the Sutro Tunnel Company and the mines on the Comstock lode was generally spoken of in all the daily papers as an accomplished fact, and an immediate influence was felt in the increased value of Stocks. Shortly afterwards, however, it became known that the agreement had been suddenly and hopelessly abandoned. The result was a depression in the water stocks, which has with little change continued since. I now learn from Mr. Sutro that the vexed question has at length been definitely settled, and that the terms of the agreement will be made public within a few days' time. The basis of that agreement is that the Sutro Tunnel Company shall be entitled to a royalty of $2 per ton on all ores extracted and reduced by the mines from the Utah on the north, and the Overman on the south, producing over $40 per ton, and that on ore producing less than $40 per ton they shall be entitled to a royalty of $1 per ton. It has also been agreed that the mining companies shall advance $70 for every foot of lateral tunnel, the advance to be paid out of the royalties due from the companies. The immense importance of the tunnel may be imagined when we consider the increased facilities afforded for working the extensive bodies of ore lying *perdu* above it, and which, owing to the absence of these facilities, has been little more than worthless to their owners. A bright future, no doubt, looms on the fortunate possessor of Sutro Tunnel Stock, not only by the increased value of that stock in the near future, but from the probability of one bonanza or more being unearthed within the possessions of the Tunnel Company. A great surprise has awaited the mining community of this State in the decision of Judge Keyser, of the Tenth District Court, who has granted a perpetual injunction in the case of Keyes against the Little York Mining Company and others, to restrain about 20 hydraulic mining companies from throwing their tailings into the bed of Bear river or its tributaries. Among his findings it is to be noticed that the Balch Hydraulic Claim, valued at over $100,000, the Cedar Creek Claims at $475,000, the Birdseye Creek Claims at $500,000, and the Sargent and Jacob's Claim at $250,000 were all defendants in the suit.

The effect of this judgment (if it be affirmed by the highest legal authority) would cause the stoppage of numerous hydraulic mines throughout the country, and it would thereby greatly reduce the taxable property of the State. I am glad to say that from high legal authority I am assured that this judgment will not stand—that it be reversed on an appeal to the Supreme Court. In many points the decision is manifestly defective, and the general opinion is that it will not hold good—so that I trust no unnecessary alarm will be created in England when Judge Keyser's decision is made known. It is undoubtedly true that a very large portion of arable land has been flooded by water and covered with debris from the mines. But it is to be borne in mind that periodical floods occur in California which would inundate those lands and bring down with them the accumulated tailings of years from the mining districts, and no legislation could prevent this. Then, again, the damage done to agricultural lands is nothing comparable to the loss the State would sustain by the ruin of half-a-dozen mining counties and the destruction of one of the leading industries of the State. In all cases of this kind the ultimate decision will be in favour of those who represent the largest interest, and are backed by the greatest wealth—not that the law will be perverted in this case, as it sympathises strongly with mining interests, which in this State are considered to possess pre-emptive rights duly recognised by legislation. A very important Bill has been approved by the Governor of the State of Nevada, which authorises aliens, non-residents, and corporations to acquire and hold real estate and mineral lands in Nevada.

This law will prevent a recurrence of such practices as were perpetrated on the owners of the Ruby Mine. That notorious case is not yet definitely settled, as possession of the mine is unattainable in the absence of the man who so unfairly laid claim to the property in right of his citizenship. Trusted by the English company whose service he was in he got possession of the mine, and kept it. It is really lamentable to think of the many mistakes that have been made by English investors in this country—mistakes which might have been avoided in a great measure had some trustworthy and qualified person here been appointed to guard and look after the interests involved. It cannot be too strongly or too often impressed upon foreigners that when they come to speculate in California or on the Pacific Coast they have entirely different elements to deal with than any they have experienced in Europe, and that it often takes years to qualify them to speculate successfully in mining or land affairs. The Little York Mining Company, above referred to, I understand belonged to much the same owners as did the North American Mine. Both mines cost the English companies inordinate sums of money; both were ignominiously abandoned, and both are at present leased by those who sold or had an interest in the selling of the mines. I may further add that both have since then paid admirably—and thus John Bull is swindled, and cries out against the country. Had a really good and trustworthy party of experience in this city been authorised by the companies to supervise and guard their interests, instead of sending out men from home who professed to know everything and in reality knew nothing, these and other sad disasters would never have occurred. To show how necessary it is to get wisdom from experience before launching into speculation in this country, and, at the same time, how almost hopeless is the task of giving good advice to those so coming, I mention the case of a somewhat distinguished and wealthy Englishman. On his arrival here he met with an old and trusted acquaintance, who had had large and varied experience in California. In spite of warnings and advice he turned the cold shoulder to his friend, and threw himself unreservedly into the hands of an American who was smooth and plausible to a degree—as thousands of such men are—and the upshot was that our distinguished Britisher, after being made the laughing-stock of the community, was swindled out of some $50,000. Where losses of this kind are clearly attributable to the folly, or worse, of the party who thus parts with his money little sympathy can be accorded him, and it is not fair that the reputation of the country should suffer in consequence, as the existence of rascals is common to all lands. The moral of the lesson is this, that the man who knows everything a week after he lands in California had better stay at home, as he is certain to come to grief. The German proverb says—"Der weise mann weiss dass er nichts weiss," and it would be well if our British friends would adopt this motto when they visited the Pacific Coast with the view of making their fortunes.

It has been asserted that without the silver mines of Virginia City the business of San Francisco would be greatly impaired, but this statement can be met by facts which fully contradict such an assertion. The total gold product of California has been shown to be $1,200,000,000, and the total production of the silver mines on the Comstock lode only $270,800,000. At the present time not one of the silver mines at Virginia City is paying a dividend, and it is uncertain as to whether they ever will resume making such a return. On the other hand, the gold mining industries of this State never had a more promising outlook, most of the old mines continuing to pay dividends almost uninterruptedly. This is notably the case with the great gravel deposits of both hydraulic and drift mines, and the vast extent of these deposits and of gold quartz lodes open a fresh field for the profitable investment of capital for long years to come. It is safe to say that with improved modern machinery, skilfully worked by practical and experienced men, the gold bullion product and profit from the mines will be greatly augmented in the future. There are still some of the most promising gold quartz lodes and extensive gold-producing gravel deposits lying idle for want of capital to open and develope them, and these, in many cases, can be obtained on favourable terms. And it should be the aim of British capital to reimburse itself for the drain on its resources by the United States for wheat and other products, by controlling more of these leading bullion producing mines.

A syndicate formed in London, with a moderate amount of capital and a discreet financial agent there, could make most profitable investments at the present time in gold mining properties; and also in the conditional development of properties for which an interest would be given, with the privilege of purchasing the remainder at a stipulated price. The men who have hitherto been sent out from England to examine mines have not apparently been, as a rule, of the right class. Mining, men, and manners are totally different here to what they are in England. The opinion of a really honest and experienced miner of California must be worth much more than that of any stranger, however great his ability; but I confess it is very hard to make people abroad believe in this maxim. Its truth is only learnt from experience. The announcement of the failure to float the Old Telegraph Mine of Utah in Paris, as described in the *Mining Journal*, was read with satisfaction here by those who knew the character of that mine. Neither quartz, gravel, or silver mines should be touched by anyone in England upon mere representation. Parties are abroad who are known to have worthless mines for sale at the present time, and who will not fail to obtain a purchaser if misrepresentation will effect the purpose. Reliable information can be always obtained here beforehand as to the character and condition of a mine—so that there is no reason why people should be duped as they have hitherto been. I shall at any time be ready to afford information to those who contemplate investing in enterprises on the Pacific Coast.

An interesting and valuable process for the preservation of timber, whether in the water or above ground, has lately been introduced into California, although it has been adopted and approved of in other parts of the United States for over 16 years. It is the Thilmany process, a printed description of which I enclose. The principle of the process is in the zinc and copper salts with which timber is prepared being made insoluble in water by the addition of chloride of barium—forming in the pores of the timber a perfectly insoluble substance termed the sulphate of baryta. This appears to have a petrifying influence on the wood, and hardens it to such an extent that when laid down in blocks for street pavement heavy traffic has been found to affect it but little after a trial of 10 or 12 years. In this respect it differs materially from the Bethell process and others which have been in use in England for the past 20 years; but the principal point of difference is in the perfect insolubility in water of the Thilmany process after the trial of many years. In the United States the process is extensively applied to railway tyres, piles, bridges, and largely to shipbuilding, and wood pavements. It is found that timber treated by the process lasts 20 or 30 years, where under ordinary circumstances it would not last more than eight or ten years. Mr. Thilmany, who has a patent for England, informs me that he shortly intends visiting that country, with the view of introducing his process there.

The mines in the sister State of Oregon are showing good results, but only on a comparatively small scale—as more attention is paid to developing the immense agricultural and grazing capacities of the State than to mining. Oregon enjoys in point of climate and production a decided superiority to California, and is better adapted in every respect for colonisation, as being more suited to the European constitution. The magnificent pastoral and agricultural lands lying beyond the Dalles, in Eastern Oregon, are attracting wool growers and farmers from other parts of the Union. The increase of Oregon in population and material prosperity has surpassed that of any other State within the last few years. It is a State to which the attention of English immigration might with great advantage be directed at the present time. E. J. J.

San Francisco, March 24.

COLORADO UNITED MINING COMPANY.

SIR,—"Fox," whoever he may be and whatever may be his real motive, writes apparently in a calm and dispassionate spirit, so I take it that he desires to know the truth. I shall, therefore, with your permission, as briefly as possible, endeavour to disabuse the mind of your correspondent of its erroneous impressions.

Messrs. Moffatt and Hamill (and I trust these gentlemen will pardon me with making so free with their names) held together 40,000 shares in the Colorado United Mining Company. The first-named gentleman came to this country for the purpose of realising these shares, and I believe actually sold 20,000 of them. He was much assisted in the operation, it is stated, by a clique of speculators who thought they could "corner" the sellers—for the company some little time before had been reconstituted, the title altered, and the capital increased from 21,000 to 61,000 shares. Through an oversight, however, notice had not been given to the Stock Exchange of the alteration in the number of shares, so that only the original number were quoted in the Official List. This clique bought all the shares it dared, and advised their friends to follow suit—not that they thought or cared one iota for the intrinsic value of the property; they believed simply that the shares so freely sold were not a "good delivery," and, notwithstanding that two-thirds of the Mining Market would probably have lost heavily had they proved successful in their scheme, they appealed to the Stock Exchange Committee to assist them. However, that august body, after I understand three separate and lengthened deliberations, at the very last moment—one day before the account—decided that the shares sold were a good delivery, and the bubble burst. So much for the "rig," which has been by some ignorant parties most unjustly laid at the doors of Messrs. Moffatt and Hamill.

Now I come to the resignation, as it is termed, of Mr. Morgan, and I must preface my remarks upon that head by observing that I approach the subject with great diffidence; as, in the first place, Mr. Morgan is not in this country to answer for himself—and, secondly, it is not my intention personally to incur any risk by making statements which, although true in themselves, might land me as the writer in serious trouble. I will, however, say that Mr. Hamill found fault with Mr. Morgan, and demanded from the directors that he should be removed. This was done—whether by resignation or dismissal, or that the time of Mr. Morgan's engagement having expired he was not re engaged, I cannot say; but this I do know—that Mr. Hamill has been the manager since the beginning of the year, and already I can give the shareholders encouraging news.

After the return of Mr. Moffatt to Colorado Mr. Hamill purchased from the bank which the former gentleman represents 10,000 more shares, thus restoring his holding to the original number of 20,000 shares. He then purchased from the bank acceptances of the company amounting to $49,864. He then set thoroughly to work to make the mine a success. One of his first and most telling reforms was to lower the wages, which had been advanced to an unduly high level, and thereby he effected a very large saving in the expenditure. He next took important measures to check a wholesale system of plunder which appears to have prevailed, by insisting upon miners changing their clothes before leaving the works; and, although he has thereby incurred the grave displeasure of the men, and consequently moves about with his life in his hand, his accounts already received show a profit for January of $5254, for February $1972, and for March of $8772. Mr. Hamill, I am informed, receives no remuneration of any kind for his services. He is acknowledged to be one of the best miners and lawyers on the coast. It is his intention to reside on the property.

Finally, I am happy to remind your readers that they possess a large extent of unexplored ground; and, although adverse speculators may sneer and affect to disbelieve reports from the mine, I would remind them that their manager is a gentleman of repute and position in the State, and that any statement from him may be relied upon, notwithstanding any interested insinuations to the contrary. In conclusion, I may add that Mr. Hamill has expressed his belief that at the end of this year he will have cleared the mine of debt and earned a dividend, with reserves of ore in sight.

April 15. FAIR PLAY.

P.S.—Information has just reached me of the return to England of the secretary, Mr. Andrews.

REDUCING SULPHIDES WITHOUT FUEL.

SIR,—I had no intention of entering into any public correspondence on the subject of my process, but as Mr. George Gatheral, the Cardiff manager of the Tharsis Company, has taken the trouble to go carefully into my figures, in his letter published in last week's Journal, I feel bound in courtesy to reply.

As to the loss of copper in slags, I hope to be able to demonstate clearly that my estimate of only 10 per cent. loss of copper is correct, and the following are my reasons for this expectation:—To produce a 15 per cent. regulus of copper from pyrites containing only 1½ per cent., it is necessary to reduce the bulk of the material by distillation or oxidation about 90 per cent. I feel sure that Mr. Gatheral will admit that provided bases as well as silica are added, so as to produce an easily fusible slag of specific gravity 3·5 instead of 4·1, there will be no probability of such a slag containing more than 0·1 per cent. of copper, provided the copper in the regulus has not been concentrated beyond 15 per cent. Such being the case, 90 per cent. of the total slag could be thrown away, and the remaining 10 per cent., which is produced while concentrating the regulus beyond 15 per cent., could be put back into the furnace, and in this way the loss would be considerably less than 10 per cent. of the total copper originally contained in the pyrites.

With regard to the value and cost of extracting the gold, silver and copper from the regulus, Mr. Gatheral is, perhaps, justified in taking the value of the regulus according to the Swansea standard; but if the Rio Tinto Company adopt my process, and produce 13,500 tons of 30 per cent. copper regulus annually, they will, probably, go a step further, and, like the Tharsis Company, become copper smelters. I am much obliged to Mr. Gatheral for pointing out that the items for gold and silver ought to be doubled, and this being the case it allows 175,700*l.* (or about 13*l.* per ton) for the expenses of separating the copper, gold, and silver from the regulus, as shown by a detailed account, a copy of which, being too long for insertion, I have forwarded direct to Mr. Gatheral, and shall be happy to send copies on application to those of your readers who are interested in the subject. I do not suppose any copper smelter will assert that it costs 13*l.* per ton to extract copper, silver, and gold from a 30 per cent. regulus, particularly such as produced by my process, which always contains metallic iron in addition to that combined with sulphur, and is, therefore, capable of reducing metallic lead from galena, with which will be found the silver and gold originally contained in the regulus.

I regret that Mr. Gatheral did not accept my invitation to be present on April 8 at Sheffield, because he would then have had the opportunity of satisfying himself that we do obtain large quantities of free crude sulphur. From one point of view it is quite possible that Mr. Gatheral may be correct in assuming that the value of the crude sulphur produced by my process may be of less value than 3*l.* per ton at the mine—when the process is carried out on so large a scale that it will more than supply the whole world with brimstone. Until then, I am sure everyone acquainted with sulphur refining will agree with my moderate estimate of 3*l.* per ton at the mines. The present value of best seconds is over 6*l.* in London, and you are probably aware that Sicily produces 200,000 tons of sulphur annually.

As to wages and cost of working the process, I have estimated expenses of 1s. per ton on the pyrites used, and if Mr. Gatheral will favour me by being present at an experiment to take place on Thursday next, at the Atlas Works, Sheffield, I will take the opportunity of pointing out to him the small amount of expense involved. He doubtless knows how comparatively small is the cost of working in an ordinary blast-furnace, and my process is in its details very similar. The reasons why the expenses at Rio Tinto would be less than at Sheffield are—1. Wages are much less in Spain than in England.—2. The nature of the district would permit of the furnaces being placed on the side of a hill, so that the trucks could be emptied directly into the furnace at the top, and as land in the immediate neighbourhood is of very small value, the slag could be allowed to run from the furnaces into the valleys below. If, however, I have underestimated the cost of wages, &c., the allowance I have made of 45,400*l.* for contingencies (which is equal to 3s. per ton on the pyrites) will amply compensate for this.

I wish further to point out that in my calculations I have endeavoured to avoid as much as possible showing any bias towards my own views, thus the item 62,100*l.* for coals is exaggerated. If you will refer to Messrs. Howson and Wilson's estimate of coal required, you will find the quantity necessary for treating 300,000 tons of pyrites with a cold blast is 20,000 tons and further 11,000 tons for heating the blast. In treating Rio Tinto pyrites and, in fact, in all my experiments, I have always employed a cold-blast, and a hot-blast is only necessary when treating a larger proportion of incombustible metalliferous substances as compared with the pyrites; therefore, for the calculation, I should have been justified in adopting the quantity of coal as 20,000 tons, which, at 23s. per ton, would be 23,000*l.*, instead of 62,100*l.*, which would increase the profit by 39,100*l.*, and I believe the smaller amount to be correct. The estimate of 75,000*l.* for silica is also exaggerated; in fact, this item, as well as that of 62,100*l.* for coals, is not mine, but was taken from the figures of Mr. Julien Deby, in his report to the Rio Tinto Company last year. The above item of 75,000*l.* I feel sure might be excluded from the accounts altogether, because it seems absurd to suppose that silicious materials would be added, at a cost of 10s. per ton, when, as it is well known, large quantities of suitable materials containing valuable metals could be procured at the mines for less than 10s. per ton, from which by my process the metallic products would be obtained either in the regulus or with the sublimates. The lead, zinc, and other metals which are contained in the gangue of the pyrites will also be an important asset.

In my process I so economise labour and fuel, and concentrate several distinct processes into one operation, that copper can be produced from poor ores at fully 15*l.* per ton less than by the Swansea process, and from rich ores at 5*l.* per ton less. It would, therefore, pay the pyrites companies and the large mine owners to become copper smelters, and to supply the sulphuric acid makers with crude sulphur and sulphurous acid. There is, however, one difficulty—the inconvenience of having a great many works in different parts of the country, and I have, therefore, thought a good deal about the liquefaction of the sulphurous acid. If we produce 50 per cent. of the sulphur in the free state this difficulty is reduced one-half. I believe in practice we shall obtain 70 per cent. of the sulphur in the free state, and only about 25 per cent. as sulphurous acid. If, therefore, the cost of liquefaction of the sulphurous acid should even be as much as the value of the sulphurous acid when liquefied it might still be worth while to do so, because otherwise we might find it difficult to deal with so large a quantity of sulphurous acid in one district. 48 units of sulphur in pyrites at 6d. per unit = 24s.; 0·70 × 48 = S 33 6 + 2·4 for impurities = 0·36 ton of crude sulphur at 3*l.* per ton, 21·6s.; leaving difference per ton of pyrites, 2·4s. Thus 70 per cent., as free sulphur, would produce nearly the value of the sulphur in the pyrites at 6d. per unit, the difference being about 2s. 5d. per ton. Now, if the copper extracting works were situated at Swansea, Cardiff, or Newcastle, the freight from Huelva would be, probably, 2s. 6d. per ton less than to Garston, and the carriage of the burnt ore from the chemical works to the copper extracting works would also be saved. If 70 per cent. of free sulphur is obtained from the pyrites, only 25 per cent. of the total sulphur would be converted into sulphurous acid, and thus the consumption of pyrites in this country would be increased, perhaps fourfold. This would, of course, be a great advantage to the pyrites companies.

With regard to the relative values of sulphur in pyrites and crude sulphur of course a good deal must depend on the cost of freeing

the latter from sulphide of arsenic. Taking as before 6d. per unit for sulphur in pyrites would make sulphur as sulphurous acid worth 50s. per ton, whereas I have taken 60s. per ton as the value of the crude sulphur I obtain. This is only a very rough approximation, but is rather below than above the actual value; for, as it will be necessary to free the sulphur from arsenic, it will be almost as easy to render it quite free from other impurities. We should in this way obtain at least 0·8 ton of pure sulphur for every ton of crude. Sulphur is at present worth at least 6*l.* per ton, which gives 4*l.* 16s. for the 0·8 tons, or 1*l.* 16s. per ton for purifying the crude sulphur. If desired the sulphurous acid produced can be directly converted into sulphuric acid in the ordinary chambers, and if the operation was necessarily intermittent, so far as the evolution of sulphurous acid was concerned, several furnaces could be connected with the flue leading to the chambers, so that when one furnace was at rest another would be at work. I think everyone will agree with me that if a copper smelter could thus afford to pay 1s., or even 6d. per unit more for copper than his neighbour he could practically monopolise the trade. I presume most copper smelters work with ores containing an average of 10 per cent. of copper, and that if in lieu thereof they starred with regulus containing 30 per cent. their output and profits would be proportionately greater.

If the works were erected at Cardiff or Newcastle large quantities of ores could he brought in from all parts of the world at nominal rates of freight ranging from 1s. to 6s. per ton; and, of course, it might be a matter for consideration whether it would not pay the English miners to convert their ores into regulus at the mines, as I understand the Cornish ores which are sent to Swansea at present average less than 10 per cent. of copper. I thank Mr. Gatheral for so ably dissecting my balance-sheet.

London, April 16. —— JOHN HOLLWAY.

HOLLWAY'S PROCESS FOR UTILISATION OF SULPHIDES AS FUEL.

SIR,—In the Journal of April 12 I read with considerable interest the letter of Mr. George Gatheral on the subject of Hollway's process for reducing sulphides without fuel. The favourable spirit in which he reviews this process, considered as an invention, having regard to its ingenuity and practicability, adds the greater weight to the objection he raises as to its economic results, and the probable profit resulting from its operation on the large scale. These objections are:—

That the value of the copper regulus resulting from working 300,000 tons of pyrites is overestimated by	£ 55,537
And the 72,000 tons of sulphur are overvalued 30s. p. ton	108,000
Total	£163,537

With regard to the value of the copper regulus (containing silver and gold) I do not venture to offer an opinion, as Mr. Gatheral is no doubt in a better position to estimate it; but on the subject of the value of the sulphur I am inclined to make a few observations which may possibly have interest, owing to the circumstance that my attention was devoted during a period of three years to the subject of sulphur and its production by an improved and more economic process. The experiments were conducted at Naples, and information on the whole subject of sulphur production as then and now carried on in Sicily was obtained personally at that time by some of the gentlemen associated with me. The cost of sulphur at the ports in Sicily was 4*l.* per ton. This article is supplied to merchants by dealers and speculators at the ports, and would then cost delivered at an English port 5*l.* per ton without profit to the vendors or any margin for risks. The actual market price of brimstone (best seconds) has for the last ten years been between 6*l.* and 7*l.* per ton. If the sulphur produced by Hollway's process were treated by the method which was the subject of my experiments in Naples, it would be brought to a state in which it would be more free from mechanical impurity than so-called "best seconds" brimstone, which is at present worth 6*l.* 5s. to 6*l.* 10s. in England. The cost of this treatment would not exceed 1*l.* per ton, and if these figures be correct, as I believe, the cost of the sulphur might be reckoned as:—

72,000 tons of crude sulphur, at 3*l.* per ton	£216,000
Add cost of purification, at 1*l.* per ton	72,000
Freight, at 1*l.* per ton	72,000
Value of product	£360,000
72,000 tons of sulphur, reckoned only as "best seconds," at 6*l.* per ton	432,000
Showing an additional profit of	£ 72,000

If we abandon this sum of 72,000*l.* it still leaves Mr. Hollway's estimate of the value of sulphur intact. Mr. Gatheral assumes that the crude sulphur has no higher value than it possessed when in combination with iron, and it is possible that makers of sulphuric acid would not give much more, though they would infinitely prefer it to pyrites, but he appears to disregard the article of brimstone, which represents a large annual exportation from Sicily.

Passing by the consideration of this particular point, which may have important influence on the value of Hollway's process, one thing would appear certain—that the vitriol makers would greatly prefer to use the crude sulphur instead of pyrites for several reasons. It might be made more free from arsenic, its burning is more easily regulated, it is less costly and destructive of apparatus, and they would have no large amount of residue to deal with.

If the facts and figures connected with the metallurgical part of this process were taken as invalidated to the extent stated by Mr. Gatheral, that part relating to sulphur, as put forward in Mr. Hollway's paper, cannot, I think, be far wide of the mark; and if this be the case, it would appear probable that if not adopted by Spanish pyrites owners this process might be still more advantageous for treating pyrites in Norway, on account of the large quantity of poor copper ores combined with silica which is found there, and could be worked up economically with pyrites. One thing seems to me quite certain, that whichever country becoming the seat of manufacture by this particular process could supply crude sulphur at anything like the price it costs as pyrites, would turn pyrites itself out of the field as the direct source from which sulphuric acid is produced; and if only a portion were refined, so as to fetch 5*l.* per ton in Spain or elsewhere, that might possibly be accomplished.

Battersea, April 14. —— H. B. CONDY.

LIGHTING COLLIERIES.

SIR,—Fire damp is said to ignite only at a white heat—*i.e.*, about 2400° Fahr.—and not at a red heat, which is about 1300° Fahr.; but there are degrees of heat between the colours white and red, and I find it will fire when a bright red approaches to a dull white heat. Having satisfied myself on that head I saw at once that naked lights should never be a material that gives white light, and in order to test this as well as I conveniently could I heated a poker to a bright red heat, and found it ignited the house gas with great speed, but as the colour dimmed the speed quickly slackened, until it no longer lit the gas, but the gas made a black mark on the red poker. It was curious to observe how very suddenly the lighting power of the poker ceased, for between the last lighting and the non-lighting the eye could not detect the decline in the heat. This convinced me more than ever that very bright flames in safety-lamps will not do, and that the best light for miners can only be obtained through the aid of a moderate flame and a lens, such as I recommend—my patent, a lenticular truncated conical combustion chamber of the finest flint glass.

This brings me to oils. Some time ago I made many experiments with vegetable and animal oils, and came to the conclusion that the best colza and the best sperm had advantages over inferior oils of that class quite sufficient to sanction their higher price. As to mineral oils, I have not found any objection to their use, provided they are of good brands, of high specific gravity, and do not vaporise under 115° Fahr. Kerosine at 1s. a gallon, for instance, is an excellent oil, with a specific gravity of 0·8, and does not give off vapour under 115° Fahr. It is more suited to the purpose than any other mineral oil I know of. As to colzaline, I have searched all the works on oils in our library at the Institution of Civil Engineers, but cannot find it. The name is suspicious, as colza oil is produced from the seeds of a plant of the cabbage type, whereas the so-called colzaline resembles that most dangerously inflammable distillate of American petroleum called eupion.

The name kerosene is from two Greek words, *keros* and *elaiyon*, signifying "waxy oil," but what colzaline means I do not know; but I do know that a sample sent me took fire at the temperature of snow and before fire had touched it. I had placed a cup of it in the snow for an hour, and after that it caught fire instantly as the match approached. Under the Petroleum Act, 34 and 35 Vict. ch. 105, there is a penalty of not exceeding 20*l.* a day for keeping, without a licence, any substance that gives off an inflammable vapour at a temperature less than 100° Fahr. J. D. SHAKESPEAR.

Scientific Club, Savile row, April 16.

COLLIERY MANAGEMENT.

SIR,—Mr. Pickard stated, in a letter published in last week's Journal, that Mr. Macdonald had questioned the Home Secretary as to whether he agreed with Mr. Greaves, the certificated manager of the Stanley Colliery, Wakefield, in his interpretation of sec. 26 of the Coal Mines Regulation Act, and that he obtained a reply to the effect that Mr. Cross did not agree with the view held by Mr. Greaves. I have, however, searched both the Times and the Standard, and have failed to find the answer referred to.

On Thursday, March 27, Mr. Macdonald put a notice of a question on the paper with reference to Mr. Greaves's evidence at Wakefield, but nothing further, as far as I can ascertain, appears to follow. Would Mr. Pickard kindly say where Mr. Cross's reply is reported, as it is most important it should be made public.

Liverpool, April 16. —— A COLLIERY DIRECTOR.

NEW SAFETY FUSE FOR MINING.

SIR,—Nearly 20 years ago some improvements in safety fuses were invented by Messrs. Victor and Polglase, which were especially valuable in wet ground, as they were absolutely waterproof and free from danger. A metallic tube, composed of lead or of any metal or metallic alloy possessing sufficient ductility and of any desired bore or calibre, was filled with gunpowder or other explosive substance or compound adapted for such purposes. The tube thus filled or charged, and having the ends closed by compression, was passed through a series of rollers with graduated grooves, whereby the diameter and bore of the tube were reduced to any desired minimum, and the gunpowder or other explosive substance or compound was so tightly compressed as to give slow or steady combustion, instead of sudden explosion.

Now, Mr. Polglase has just patented this very same invention, and claims using thus leaden fuse, of which the patent is expired, to fasten a detonator cap to. He states that the metallic tube, as described in the expired patent, is taken, one end thereof being provided with a screw thread by means of which it is inserted into the the well-known detonator or cap charged with detonating or fulminating powder, and which is provided with a screw thread, capable of receiving and gearing into the end of the metallic fuse. Instead of the fuse being connected with the detonator or cap by means of screw threads it may be inserted into a smooth bore, and made water-tight by any substance impervious to water, such as white lead, cement, shellac, pitch, tar, resin, gum, or other substance adapted for the purpose.

The fuse and cap being thus united a wrapper of any material, such as paper, cotton, wool, lead or tin foils, or silk, rendered adhesive by means of gum or any other suitable adhesive substance or compound, is wrapped over the joint, the fuse being thereby prevented from coming into immediate contact with the fulminate, and so constituting a safety fuse and detonator. The cap may be capsuled with india-rubber, and provided with any desired lengths of the safety fuse ready for use. Copper, brass, or any other wire or wires may be introduced into the tube when empty, and the latter then filled with gunpowder or other explosive substance or compound, the tube being drawn or elongated over the same by means of grooved rollers. The tube or fuse is thus greatly strengthened and stiffened, and rendered more applicable for submarine purposes, and may be of great service in using the electric machine in difficult places by connecting the wire. There seems to be no doubt that since the patent is expired anyone can use the old Victor and Polglase fuse to explode a detonator; I should, therefore, be glad to learn what novelty Mr. Polglase claims to have invented.

April 8. —— FREE TRADE.

SCHMITT'S REVOLVING SPIRAL SCREEN.

SIR,—This spiral screen is now being used at some collieries in Germany with much success, and is more especially adapted for separating the small coal into different sizes, which remains after the large coal has been separated by the ordinary inclined screen. The writer is indebted to Mr. D. P. Morison, M.E., of Newcastle-on-Tyne, for the following extracts from a paper read by him before the North of England Institute of Mining Engineers descriptive of this screen:—

The size of a spiral screen to separate 400 tons of coal in 10 hours would be 8 ft. in diameter, 4 ft. in length; it is formed by a strip of iron plate about 54 ft. long and 4 ft. wide, wound into a spiral, the plate having perforations throughout its length of different sizes, according to the size of the coal required to be separated. The mode of separating and cleaning the coal in Germany is to pass the whole as it comes from the pit over an ordinary inclined screen, which delivers the large coal on to a travelling belt at the bottom of the screen; on this belt the coal is cleaned by picking out the stones, slate, &c. At the further end of the belt it falls into wagons and is ready for market. All the small coal which has fallen through the bars of the inclined screen is then raised from a hopper by an elevator to the spiral screen, from whence the sizes larger than "duff" are delivered into pulsating washing machines. The coal floating off the surface is passed over strainers to drain it, and is then run down into depots or into wagons to be taken to market, the refuse slate, pyrites, &c., being carried away by creepers into tubs. The smaller coal next in size to "duff" is taken to a disintegrator and crushed preparatory to its being coked, and the "duff" which has not been washed is also crushed, and afterwards made into coke.

The revolving spiral screen consists of a cone-shaped piece in the inner part; around this is wound the spiral of a gradually increasing diameter. The cone-shaped central part is larger in diameter at its outer end to facilitate the discharge of the larger coal which will not pass through the first series of holes. The remainder of the coal passing through these holes falls into the second division of the screen, and by the revolution of the screen this coal is further separated by the second series of holes, the larger being retained until it comes to a point where it is thrown out into a channel, and the small falls through the perforations into the third division; this is further separated by the revolution of the screen, the larger portion of the coal is thrown into a channel, and the smallest coal or "duff" passed through the smallest perforation, and falls into a hopper at the bottom of the screen. The perforated plates are made in segments, and can be altered so as to have large or small perforations, and thus vary the size of the coal as required, or suit the nature and composition of the coal.

The advantages afforded by the use of the spiral screen are—The cost is less than that of the common revolving screen, neither is the coal so much broken; its construction is simple, it is driven with small power, and the screening is most efficiently performed. The speed of a spiral screen to deliver 400 tons of coal in 10 hours is from 10 to 12 revolutions per minute, but in dealing with tender coal a lower speed is preferred. Mr. Schmitt would in such a case use two special screens, each equal to treat three-fourths of the above quantity, the speed being reduced to 6 or 8 revolutions per minute. On the Ruhr the coal as brought from the pit is run down ordinary inclined screens, by which the blocks, about 20 per cent. of the whole, are retained; the remainder, 80 per cent., is raised by elevators to the spiral screens, by which the separation into five sizes is effected.

From a series of trials it appears that the ordinary revolving screen delivers 1490 lbs. of coal per minute after passing it over 5870 square feet of surface, the spiral screen delivering the same quantity, but it is passed over a surface of only 2870 square feet, or 50 per cent. less surface. The greater quantity of coal screened over a given surface by the spiral screen is accounted for in this way—that the coal is more distributed and lies in thin layers than is the case with the ordinary revolving screen. In the latter the "duff" has to find its way through the smallest holes in the first section of the screen, the "peas" through the next size, and so on; thus the largest pieces of coal remain on the screen until they arrive at the bottom of it, whereas in the spiral screen this action is reversed, the largest pieces are first separated and thrown out, the "nuts" next, then the "peas" and smaller sizes, and lastly the "duff." The "duff" must, therefore, be perfectly separated from the larger sizes. The largest pieces being first disposed of, any unnecessary contact and breakage of the coal is thus avoided, besides the other advantage alluded to of the coal in process of screening having only half the surface to pass over, compared with that treated in the common revolving screen. In the trials with the spiral and common revolving screen, before alluded to, the spiral screen used had an external diameter of 7 ft., internal 2 ft. 9 in., and breadth 4 ft. 3 in., making 10 revolutions per minute. The ordinary revolving screen was in dimensions—First portion, 5 ft. 3 in. diameter, 15 ft. 9 in. length, going 12 revolutions per minute; second portion, 4 ft. 6 in. diameter, 14 ft. 9 in. length, going 15 revolutions per minute.

It may be observed that by the mode of screening ordinarily practised in this country the coal is subject to a large amount of breakage and to rough treatment. It is highly important, therefore, to obtain improved appliances so as to avoid this loss, and at the same time make a perfect separation of the different sizes of coal one from another. M. E.

HAULING CORVES AND TUBS.

SIR,—As in the present depressed state of trade it is essential that the utmost economy should be practised in every department, perhaps you will permit me to direct attention to an ingenious arrangement for hauling corves, invented by a friend of mine, Mr. James Pease, of Hednesford, which I think will prove very economical, both from the smallness of first cost and the saving of time which it is likely to effect. There is, in the first place, an improved gripping coupling connecting the corve to the rope; and, secondly, inclined slides or guides which are fixed in the tramroad to relieve the gripping coupling from the rope automatically. The upper portion of the coupling can be of the form of an ordinary hook, and the lower portion thereof has the form of a pair of gripping tongs, which can be T-shaped at their extremities, and which are bowed or hollowed out to fit on to the rope or chain. Over the shanks or stems of the tongs is placed a collar or ferrule, which slides thereon and prevents the jaws of the tongs opening when a corve is being hauled thereby. The inclined slides or guides are fixed at the point where it is desired to cease hauling and disengage the corves from the rope. The inclined slides are constructed and fixed so that the rope or chain and the lower extremity of the coupling can pass between them freely, but so as to lift the collar or ferrule up the shanks or stems and above the joint of the tongs, and thus allow them to open outwards and so drop the rope or chain.

In carrying this invention into effect the coupling hook is attached to the corve, and the collar (surrounding the shanks of the gripping tongs) being raised the rope is inserted in the tongs; the collar is then lowered, thus securing the coupling and corve firmly to the rope; the corve will then travel with the rope, and when it arrives at the inclined slides the rope and lower extremity of the gripping tongs pass between the said inclined slides, but the collar passes over the said inclined slides and is raised up the tongs, by which means the rope is released from the coupling and corve. The endless rope or chain can have continuous motion, and the corves can by the above-described means and apparatus be attached to and detached from the travelling rope at any convenient time and place. The simplicity of the arrangement is, I think, evident, whilst the cost at which it can be supplied will prove no obstacle to its introduction.—*Stafford, April* 5. H. J. C.

CLEVELAND STEEL.

SIR,—The whole community interested in the iron and steel trades and the thinking public generally, ought to be much obliged to Mr. E. W. Richards, the general manager to Messrs. Bolckow, Vaughan, and Co.'s immense concern, for the experiments shown to a large and influential body of Cleveland ironmasters at Middlesborough on the 4th instant. It has been for some time known, perhaps not very generally, and a good deal of mystery has been displayed, that a process for the elimination of phosphorus from Cleveland iron had been discovered, but to Mr. Richards we are indebted for many facts and details not known previously outside of Messrs. Bolckow, Vaughan and Co.'s works, and for the thoroughly practical tests submitted to view on the 4th instant.

Messrs. Thomas and Gilchrist are the patentees of the method used, and it would appear that great difficulty has been experienced all along to obtain a lining for the Bessemer converter which would stand the extreme heat necessary for eliminating the phosphorus. The lining invented by Messrs. Thomas and Gilchrist is made from magnesian limestone mixed with silicate of soda. It is made into bricks and burnt in a kiln capable of being heated to an extreme white heat. The coverter was lined with them in the usual manner, and stood the tests admirably in all respects. This suitable lining is of the greatest importance; in fact, the essence of commercial success, as all ordinary linings would not stand more than a few blows at the most. The old foundry at Messrs. Bolckow, Vaughan and Co.'s works, the scene of the first experiments made many years ago on Cleveland ironstone, and hallowed by the memory of the late Mr. John Vaughan, the most practical iron maker that was ever on the Tees side, and owing to whose exertions and indomitable perseverance Cleveland has become the greatest iron centre in England, has been again the successful and charmed spot for solving a problem which will revolutionise the iron trade, and that very speedily. This old foundry has been fitted up with a blowing-engine, Bessemer converter, steam-hammer, &c. No. 2 furnace working on Cleveland ore from Eston Mines was tapped, and about 1¼ ton of metal run into a large ladle, which was then emptied into the converter containing a few pounds of lime made from magnesian limestone.

The blast was then applied, and in a short time the silicon disappeared, when a barrow-full of blue billy and lime flux were added. Some of the gentlemen present with the aid of the spectroscope were much interested in watching the various changes the liquid underwent in the converter. In about half an hour a small quantity of the metal was put into a small ladle; this was beaten flat under the steam hammer. As the experiments proceeded some tests were made to show the progress of the change which was in operation. About 10 per cent. spiegeleism was put into the converter, the blast again applied, after which the liquid was run into the ingot moulds—it was then of a bright white appearance. Samples were taken and hammered into bars 1 inch square and about 20 inches in length, one of which was cut into pieces and distributed to gentlemen present, who all testified to its superior quality. To show the phosphorus was practically removed pieces of steel were turned horseshoe fashion, and then hammered flat without any sign of fracture or flaw. The operation of welding was also successfully applied. It was proved the phosphorus had been reduced from 1·50 per cent. to 0·02 per cent.—a quantity less than was achieved from Cumberland or Spanish ores.

At the luncheon after the experiments Mr. E. Williams (Messrs. Bolckow, Vaughan, and Co.'s late manager) made some interesting statements, one of which was that seven years ago Clevelnnd had a trade representing three millions sterling of rails per year. This had entirely disappeared, but he now had great hopes it would soon come back, and he hoped not only rails but a great many other things which are made out of steel would be manufactured in the district. I think Mr. Williams might have gone further than this with safety, for I am of opinion not only articles which are now made of steel will be produced on an extensive scale but things now in use made of iron, and articles at present made from neither, but necessary for our future requirements, will be manufactured from Cleveland steel, which is as well adapted for Sheffield cutlery as for heavy rails, plates, &c., and can be produced for less money than

iron, and possessing the great advantages of increased durability, strength, and lightness.

Mr. Richards was of opinion that with converters of a larger capacity than those used in the experiments they would make steel of the very highest quality and in the simplest possible manner, and I think when we consider how prodigal nature has been in giving us such an abundant supply of ironstone on the spot worked so cheaply, with large deposits of magnesian limestone, and the best of coke not far off, and obtainable at low prices, one cannot be considered sanguine in saying Cleveland must become the greatest steel-making centre in the world. A detailed cost of its manufacture has not yet appeared to the world, but practical men may form a very correct estimate. Anyone fortunate enough to have a good ironstone royalty leased in a good position for furnaces and other requisite erections for the manufacture of steel stand a good chance of making their property profitable—more so than existing works, whose plant will have to be converted at a great cost. The Darlington Iron Company (Limited) intend altering a portion of their works for steel, and it is said Messrs. Hopkins, Gilkes, and Co. contemplate doing the same.—*April* 9. STEEL.

SCHRAM'S DIRECT-ACTING AIR-COMPRESSOR.

SIR,—I have read a very interesting article in the Journal of Saturday regarding Schram's direct-acting air-compressor. The facts spoken of are not at all clear to me, as I see no mention made of the pressure which the outlet valves were subject to at the time of taking the diagrams. This is one of the greatest points to be observed in the crucial tests of any air-compressor, while the other great point is the speed, which in this case I notice was the very moderate rate of 40 per minute. The diagrams are very good, but I have seen as good from the Reliance air-compressor (at a trial in July, 1878, at which I was present with a number of other engineers) under a pressure of 120 lbs., and at a speed of 110, and this compressor has inlet valves, thus showing that the theory, as set forth in your Journal, of the cylinder not being filled with air at atmospheric pressure is incorrect, as is also the idea that the air becomes heated by being taken in through inlet valves. I quite agree with your correspondent that where the valves depend upon springs or friction for their opening or closing heat and loss must ensue, but when diagrams of any class of machine are handed to the public for their information I think your readers will agree with me that the fullest explanation should accompany them, as otherwise they will be misleading to those who are not well up in such matters. As air-compressors must rank high among the machinery of the future from the sterling benefits to be derived by mineowners and others in conveying power any distance to underground and other workings, and as the best means of ventilation, too much care cannot be taken in making known any new and practical improvements in this class of machinery.

As a mining engineer I shall watch with great interest the trial between the Schram drill and compressor and the Eclipse drill and Reliance compressor at Llanrwst. I trust there will be fair play for both parties, and no bribery, for, as I have been given to understand, the machines in each case are to be given over to the company's own men to work after the second or third day. This latter arrangement is, to my mind, the correct thing to do, provided, as I have before said, there is no bribery or corrupt dealing with the men, but I cannot hear who are to be the judges in the matter, nor do I understand what are to be the principal points in the test, except that the Mineral Corporation of Great Britain are to get two months' work done for nothing. This part of the proceeding seems to be a cute move on the part of the above company, to say the least of it. One would have thought that if there is to be a vanquished party they should at least be paid hand-labour prices for the work that is done. I trust a full report of the trials will be given in your valuable Journal for the benefit of the mining world and—

Wimbledon, April 15. H. C. C.

IS IT RIGHT TO PAY ANY PURCHASE MONEY FOR MINES?

SIR,—I am sorry that Mr. Hoskold has not had an opportunity of reading all the correspondence which has appeared in the Journal on this subject. If he had some portions of his letter would have been unnecessary; and to put him right on certain points as regards my own position in the controversy, I must ask your indulgence to give me space for a brief explanation. First, as to "Actuary" I have not yielded the palm to him. I declined having a controversy with him except he would give his name. He has refused, and I am prepared to respect his motives, and only ask that mine be respected. I should not have begun the controversy on this very important question if I had had any doubt about the position I had taken up, and I have not yet seen anything to shake that position but much to confirm its soundness. Secondly, I have never said one word which would bear such a construction that the exhaustion of the corpus never lessens the value of a mineral property. If a mine is exhausted there is an end of it. I have never used the words exhaustion or "corpus." Third, as to giving a special case. I consider that the statements I have published with reference to the Devon (Reed) Silver-Lead Mine very strongly show that a purchaser would be justified, and make a splendid bargain by giving 5000*l.* for the mine in question.

I am very glad that the subject is engaging so much attention. Mr. Hoskold must not expect that it can be disposed of at once. His own letter is a valuable contribution to the controversy, but he does not absolutely settle it one way or the other. Mr. Stuart's letter, in your issue of the 7th, when fairly looked at supports my position very materially. His company wants 40,000*l.* of capital; or, in other words, they are willing to sell one half of the mine for 40,000*l.*, thus putting a purchase money upon the whole mine of 80,000*l.* The 40,000*l.* are not to be added to a similar fund, but to be expended in machinery, mining plant, and development. It is true that Mr. Stuart's company propose to transfer their whole property, but with the understanding that they receive half the profits or half of the stock fully paid-up of a new company. Thus showing that the new shareholders are to find all the working capital if a company is formed with a total capital of 80,000*l.*, as the existing company is to have half profits or fully paid-up stock. I repeat, therefore, that on Mr. Stuart's own showing the present purchase money to be paid for the Lake Superior Mine is 80,000*l.*

With regard to the Calumet and Hecla and Silver Islet Mines, Mr. Stuart says—"One never sees the owners of such mines anxious to sell them or offering them for sale." Very likely, but that has nothing to do with the question I put to Mr. Stuart, and which he has not answered. I repeat it. If such mines were on sale, would Mr. Stuart as a practical man advise the owners to sell them for nothing except the royalties? The thing is absurd, and no one knows that better than Mr. Stuart. I consider I may fairly claim these Canadian mines as most incontestably supporting my position. Take the Calumet and Hecla. Supposing the shares were standing at par in 1875, in 1876 the shareholders receive 600,000*l.* in dividends. Would such shares remain at par? Would they not at once have gone, as they must have done, to a high premium, depending for its amount upon the capital of the company and the prospective character of the mine? Every man who pays a premium on any share in any mining company is, *pro tanto*, paying a purchase-money for the mine. I hope Mr. Stuart will say whether or no he agrees with this view; and, if not, why not. If he does not, then instead of asking for 40,000*l.* capital to work the mine he should be prepared to state, we will part with the mine for nothing but the royalties, plus the value of any plant on the mines. If he agrees with me I hope he will candidly support my position, for clearly and unmistakeably he is asking a money payment of 40,000*l.* I sincerely hope Mr. Stuart will from time to time favour us through the Journal with information how his great undertaking is progressing, and I, for one, shall be glad to hear that valuable profitable discoveries are made, attended with most profitable results. With regard to the iron mine, it would take (say) five years to raise the 1,000,000 tons of ore, and I have no doubt that in that period the average selling price will be far more than 20s. per ton. Ore of the class raised from that mine was sold five years ago at 30s. to 32s., but I am content to base my calculations at 20s.; and, taking the clear profit at 10s., we should have a yearly profit for the five years of 50,000*l.* It needs no argument to prove that any capitalists would give a large sum for such a mine. Mr. Hoskold says—"I cannot see that the price the mine would command would be so very high, after all;" but he gives no reasons of a satisfactory character for such a conclusion.

The introduction to Mr. Hoskold's letter is a remarkable one; but, as I do not know whether his remarks are purely abstract, or have any reference to myself, I will not notice them. To whomsoever they may apply, I think he might have spared them. I hardly think he would have written such an able letter if he had the conviction that myself and others who have written on the subject under discussion were destitute of practical knowledge and commercial experience. Let the object of everyone be to argue the question fairly and openly, and let your readers be the judges who are right and who are wrong. The controversy is only on the threshold, and I hope it will go on. We have now Spain and Canada represented, and I doubt not gentlemen of experience in other countries will, ere long, send their contributions. WM. SALMON.

IS IT RIGHT TO PAY ANY PURCHASE-MONEY FOR MINES?

SIR,—The above subject is of vital importance to the mining speculator, and I think the matter could not be more coolly and justly treated than in the present time of mining inactivity. I have had many years' experience in one of the richest mining districts in the kingdom, and have had unusual advantages for ascertaining the actual and prospective value of mines in my neighbourhood and elsewhere, and I am of opinion that the right of demanding purchase-money for mines is sometimes much abused. The question whether the lessee has a moral claim to a money consideration for the whole or any portion of a mine cannot, I think, be doubted, even if he has not spent a penny in its development.

The man who takes up a mining property is, as a rule, one who has had much experience, and is therefore supposed to be an authority on mining. This is his credential when he applies to the lessor for a lease, and also the ground on which he bases his right to be heard by the capitalist. It cannot be denied that mine leases are sometimes obtained by men who know nothing of mining, and who rely for their information on illiterate, and sometimes unscrupulous, working miners, whose knowledge is confined to a radius of a mile from their dwelling. Guess mines started under such circumstances often have not a single element of success, and are dear at any price. The immediate neighbourhood of a great success and the re-opening of exhausted mines are other instances of unsafe mining often brought prominently before the investing public to the prejudice of *bona fide* undertakings. Purchase-money is demanded in all cases, and the capitalist (who is seldom able to judge for himself) is influenced by the very man whose interest it is to float a concern for the sake of such promotion money, which in many instances absorbs the greater portion of the capital. The intelligent miner, who has made his business a life study, has a legitimate claim on the investor, but he is seldom the one to benefit by the success of a mining undertaking, although introduced by himself. It cannot be doubted that any mine worth working, notwithstanding the risks, must have a marketable value, although in some cases difficult to arrive at even approximately, and it must be admitted that the promoter is entitled to such value, which should in all cases be taken in shares, with a money equivalent for his services. Scores of mines are offered *ad captandum vulgus*, but it is only under extraordinary circumstances that a paying mine is offered to the public without reserve. I can sympathise with your correspondent W. W. Steuart in his failure to raise capital for his American scheme, being myself the happy proprietor of an undeveloped mine at home. C. E.

April 14.

PENSTRUTHAL MINE.

SIR,—If, under the signature of "R. S.," I have fallen into an error, I am not willing that anyone else shall bear the blame. I, therefore, write this to say that I am not your correspondent "J. E," who wrote in a recent number of the Journal. The Secretary himself, in his letter of last week, has fallen into an error. I never meant to deceive the shareholders, nor was my letter calculated to do it. I wish the shareholders every success, and I believe that the mine, if fairly developed in depth, would yield them large profits, as the adjacent mines have done. But they must sink for it. If the shareholders can raise funds to "open up" the mine as it should be I shall be glad on their account. As to the alleged bill of sale, I took the registration of the deed to imply that the document was of the nature of a bill of sale, and I still think so, whatever the Secretary may say about it. If it were not, why was the registration required?—*April* 8. R. S.

CAMBRIAN MINING COMPANY.

SIR,—As a constant reader of the Journal it has been my fate to see your valuable space too frequently occupied by mere twadd'e concerning this company, but I think it has been reserved for Mr. Anderson to show the culmination of unreasonableness. Had Mr. Keene given Mr. Anderson the information he asked for it would have been a great breach of confidence towards many other shareholders. Who is Mr. Anderson that he should expect Mr. Keene to give him information which no shareholder is entitled to?—the private transactions of his brother-shareholders. Mr. Keene and the directors did their duty in refusing to give privately information which they had received in their official capacity.

April 15. ANOTHER SHAREHOLDER.

CARDIGANSHIRE MINES—THE CAMBRIAN, &c.

SIR,—I take it for granted that Mr. James R. Anderson is a shareholder in the Cambrian Company, and as I promised a reply to your Correspondent of Salop, &c., to anyone actually holding an interest in it I now proceed to reply to the question—"Was the discovery made between the time when they were bought by the Aberystwith tradesman for 2500*l.*, and the time they were sold to the present company for 70,000*l.* of such a nature and extent as to justify an increase in the price of 67,500*l.*, or anything approaching that sum?" Again—"What was the size of this discovery, how vast was it," &c.? The discovery above alluded to was made by sinking an engine-shaft immediately under the 10 fm. level, or a little over 25 fms. from surface, on a lode as proved in the adit level, 15 fms. from surface, to be over 20 ft. wide for a distance of more than 150 fms. in length, composed of a gossan, of precisely the same description as the engine-shaft was sunk on, and which is as near as possible in the centre of the gossan, in no way inferior to the discovery of copper ore made at the Devon Great Consols in sinking their engine-shaft, which has since realised considerably more than 1,000,000*l.* profits, gone into the pockets of the shareholders; and, having visited almost every part of the kingdom, I fearlessly state that during my 40 years' experience I have not seen a discovery of copper of such importance as has been made here. So with this I shall leave Mr. Anderson, your Correspondent, and others to judge for themselves as to the real value of the property when sold to the present company. The copper has continued exceedingly rich as far as the engine-shaft has been sunk between the 30 and 40 fm levels, and the 30 east is now producing 7 tons of copper ore of 25 per cent. for the width now carrying, 5 ft. of the lode. I am neither a paid agent or a shareholder in this property, and feel an interest in the matter only as a well-wisher to the mines of the county, and in order that the shareholders may have some idea of the real value of the property they have embarked their money in. As to all the other matters named by Mr. Anderson I shall leave in other hands to answer or not; and further than what appears in this letter, unless "the piper is paid," will any more information be given by me about the Cambrian Mine. As "G. J." or the "£5000 Investor" has not yet favoured us with his name he will not expect a reply to his last on Mines and Mining in Cardiganshire; but I may call his attention to a letter which appears in the same column and date (12th instant) which may possibly throw a light over the matter he refers to. I may mention that it is by no means an unusual thing in mining either in this country or many others for shares to rise to 100 times the price paid on them in a few months. Witness the Goginan, 5*l.* shares, rose in twelve months to 420*l.*; the Lisburne, Mines, 75*l.* to 525*l.*—these in this county. The Devon Consols went in a short time from 1*l.* to 600*l.*; but prizes are always acceptable, more especially when their growth is, like the mushroom, soon established; but when a little patience has to be practised, and when some disappointment is experienced by some parties, there is nothing but one continued cry against the property, management, &c.—and, in fact, black is not a sufficient dye to paint with.

Aberystwith, April 14. ABSALOM FRANCIS.

A GOOD MAN DEPARTED.

SIR,—I am now the only survivor of the company who attended the Crenver and Wheal Abraham Mine meetings in the years 1824 and 1825. The recent decease of Mr. Llewellin Newton, of Camborne, at the age of 93, has left me in that position. He was the accountant of those mines till their abandonment in 1825. After that, and perhaps before, he kept a stationer's shop in Camborne for many years; but for the last 30 years or so he was an accountant at Messrs. Bickford, Smith, and Co.'s safety-fuse factory at Tuckingmill. A more inoffensive man I never knew. I remember the names of the gentlemen who usually attended those meetings—Mr. Henry Harvey, Hayle; Mr. Robert Michell, the representative of Carne, Vivian, and Co., Copperhouse; Mr. Joseph Carne, Penzance; Mr. Robert Bennett and Son, of Camborne; Messrs. James and Josiah Paull, Camborne; Mr. Humphry Pascoe, Penzance; Capt. Andrew Vivian, Camborne; Capt. Nicholas Vivian, Camborne; Capt. Phillip Richards and son; Mr. John Lean, the engine reporter; Mr. Pearce Rogers, Helston; and Mr. L. Newton. All gone! R. S.

Truro, April 15.

Meetings of Public Companies.

SIERRA BUTTES GOLD MINING COMPANY.

The eighteenth ordinary general meeting of shareholders was held at the Cannon-street Hotel on Thursday,

Mr. LEWIS R. PRICE, the Chairman, presiding.

Mr. JOHN SAUL (the secretary) read the notice calling the meeting. The report of the directors was taken as read.

The CHAIRMAN said the aspect of affairs as regarded the Sierra Buttes Mine was somewhat more cheering than it was when last they met. He would proceed to mention a few items in the accounts before remarking on the state and prospects of the mine. The total gross produce from bullion and rent of arrastras was 34,743*l.*, as compared with 27,706*l.* in the previous half-year. The expenditure, besides the ordinary outlay, included some items which it might be expected would not occur again. Prominent amongst these was about 2100*l.* for improvements, and 700*l.* for legal and travelling expenses. The former was principally caused by the change for economising the water supply, by which the mills were now worked at a consumption of half what was previously required. All that human ingenuity could devise appeared to have been adopted, and they could now hope that they could command a constant supply of water throughout the year. The second item of 700*l.* had been due about half to legal expenses connected with the transfer of the agency, and the other half to travelling and other incidental outlay connected with the same transfer. There might always be some small legal expenses attending a business like ours, and some travelling to be done, but this would not be anything like the amount now charged; beyond this, he might observe that the amount now charged was the accumulation of 18 months. There was also 400*l.* forming part of the 1000*l.* voted to Mr. Coulter for his successful exertions in settling the affairs and remodelling the agency; but, on the other hand, it would be found that the 600*l.* which had formerly been charged in the half-year for agent's commission in San Francisco had disappeared. The future payment of the agency had not yet been finally settled, but Mr. Coulter proposed to return to San Francisco shortly, and was willing to take charge of the business. (Hear, hear.) Therefore, all he could say at present was to express the belief that the new system would be more efficient and economical than that previously existing. (Hear, hear.) In determining the amount of dividend which the board could submit for the approval of the shareholders the directors had been guided by the consideration that the half-year had been one of unusual outlay. On a former occasion the directors asked the permission of the shareholders to retain 5000*l.* as a reserve fund. The directors based their proposal on the special grounds that having no working capital it was not prudent to be without some funds to fall back upon in case of any unexpected demand for additional expenditure arising. The outlay during the past six months which they were now treating of had been of an exceptional character, and, therefore, taking this in conjunction with the improved condition of the mine, the directors thought themselves justified in applying about 1400*l.* of the reserve to complete the dividend of 1s 6d. per share. He trusted this decision would meet with the approval of the shareholders, and show that the board were not desirous of retaining unnecessary funds in their hands, but, on the contrary, wished to give in dividends the utmost amount that prudence would allow. (Hear, hear.) It might suggest itself to some of the shareholders that the directors might have ventured on a 2s. dividend, but such a course would have exhausted the whole of the reserve fund, and have left them without any capital whatever to meet an emergency. This, the directors thought, would have been most unwise. (Hear, hear.) As regarded the mine, he commenced by saying that the position was more cheering, and he thought a fair consideration of Mr. Johns' and Capt. James' reports would bear out that view. The former began by saying; "Considering the amount of ground opened, the developments have not been as satisfactory as could be wished," and Capt. James followed somewhat in the same way, saying, "The results obtained from this large amount of prospecting, though not as remunerative as expected, have been better than in the previous half-year." You will observe he admits that the "results have been better than in the previous half-year," and Mr. Johns further encourages us by saying, at the end of his report, "In conclusion, I will state that the future prospects of the mine have improved during the term, and I hope they will continue to improve until the mine regains its former good standing." (Hear, hear.) Passing from generalities to particulars, we observe that a large amount of exploration has been done, in all 1623 ft. In the 6th level the largest amount of rich ore has been found since the exhaustion of Tinney's shoot, which was a rich shoot. The ore being extracted from the various cross-cuts in this level varies from $3 to $4 up to $50. We cannot expect much of this rich ore, but it has an important bearing on the prospects of this mine, because, as you are aware, a moderate quantity of this class of ore, which by itself would not afford a very large sum, makes us to work up to advantage the poorer ores with which the mine abounds; and Mr. Johns counts on this where he says—"The developments made in portions of the old workings prove the existence of large bodies of low-grade ores, that can be worked at a small profit, and I am hopeful that the discoveries made in the 6th level will lead to sufficient quantities of high-grade ore to bring the general yield up to a figure allowing a satisfactory profit on working a fair average of the low and high grade ores." So it is the combination of the rich and poor ores that are to produce our profits, while either alone—the one from its limited extent and the other from its low grade—would fail to give a good result. Though the 6th level is, for the moment, the most promising point, yet our hopes of good ore are not confined to this, for in the February report of Mr. Johns he states that 'the rise from the 3rd cross-cut on the South Cliff ledge, from the end of which a rise of 20 feet has been made, and carries a vein from 1 to 2 feet wide, which contains considerable sulphurets, and there were $12 per ton of free gold. The directors looked upon this as an important point, as the vein was unexplored overhead from there to the 3rd level, a distance of about 600 ft., which was all unexplored ground in an old part of the mine which had never been touched, and the presumption was that there was a considerable body of ore there. An eighth level had been commenced; it had only been driven 171 ft., and consequently had not yet reached a point where they might hope for discoveries, but it was 235 vertical feet below the 7th level, so that when ore was discovered there would be ample space for a large body. He need not trouble the shareholders with any further remarks on special points in the mine. The reports would have shown that generally throughout there was an abundance of low-grade ores. The mills had been overhauled, and repaired; on this point Mr. Johns said—"During the term the rebuilding of the Hitchcock mill was continued, and 40 stamps were finished. When the remaining 10 stamps are completed it will be a first-class 50 stamps mill, instead of the rotten and worn out 40 stamps mill it was but a short time since. (Hear, hear.) Therefore, the surface works were ready to take advantage of the good season, and the shareholders might fairly hope that they might not have a repetition of the trying season from which they had just emerged, but even if they were again visited with such severe weather they would be better prepared to meet it. (Cheers.) The shareholders would receive to-morrow the telegram of the clean-up of the Sierres Buttes for the month of March, which was as follows:—Clean up, $31,107; expenses, $21,402; leaving a profit of $9685. There was also a telegram from Mr. Johns, received on the 15th, stating—"Sierra Buttes Mine unchanged." That was all he had to say with regard to the Sierra Buttes. The Plumas Eureka Mine continued to fulfil the promise it gave. The accounts did not appear to demand much comment. There was only one feature in which they differed from those of the sister mine, and that was in the cost of the new mill and its dependencies and accessories. These figured for a sum of 13,063*l.* 19s. 10d. This amount, as was stated at the last meeting, the directors proposed to pay out of the extra profits of the mill itself. The first mill earned for the shareholders a dividend of 6s. per share, or 15 per cent. per annum, and the directors proposed to continue the payment at that rate, and dedicate any excess of profit beyond that to the payment of the cost of the new mill. When this debt was extinguished the whole of the profits of the two mills would become applicable for dividends. There would still be an outlay of, perhaps, 1500*l.* to 2000*l.* for an auxiliary steam-power, which Mr. Johns thought necessary to meet any accidental scarcity of water. When the accounts reached this country the books would be made up to the 31st ult. The produce for the month of January, 1878, were $39,736; and for January, 1879, $18,180; in February, 1878, $35,868, against $44,429 in February, 1879; and in March, 1878, $31,731 against $54,893 in March, 1878; which showed an increase of about 8000*l.* in the three months, which would give about 4000*l.* extra net profit for the three months. But this was not quite a criterion of what the mills would yield, because new mills generally did not yield the full amount, and, besides the bad weather, they had been obliged to take ore from one particular spot in the mine, which did not quite amount to an average. Therefore, this would not be a very good guide to the real produce, and they must wait for the returns to June 30 before they could form any trustworthy estimate of the results to be attained. If they merely looked at the increase of the three months already received—about 8000*l.*, or 4000*l.* net—the cost of the mill would be paid off in about six or nine months—he hoped not so long as nine months—but such a calculation was untrustworthy. The amount requisite for a 20 per cent. dividend was 56,250*l.* The three months had yielded at the rate of about 15,000*l.*, and four times 15,000*l.*

would be 60,000*l.*, which would accomplish it, that is if the mills remained as they were, but they had not yet earned their very best, therefore there seemed to be little doubt that the 20 per cent. would be fairly earned when the mill debt was paid off. (Cheers). The mine was everything which could be expected—he had almost said wished. It was unnecessary where exploration had been so successful to comment on every point in the mines. There were three mines—the Eureka, the Seventy-six, and the Rough and Ready. In the Eureka the shaft and two winzes sunk from the Mammoth Tunnel were all in good paying ore. Winze No. 1, as it approached the Mohawk Tunnel, became barren, but this merely arose from the vein dipping southward out of the winze. The old middle Mammoth Tunnel had a 10 ft. wide vein of $5 to $7 ore. The Mohawk Tunnel, which was in the lowest level, had $8 ore, as to which Mr. Johns remarked :—

"This is a decided improvement in the quality of the ore over that found in the Mammoth Tunnel. The quartz is very solid and hard, and contains considerable sulphurets. Taking this into consideration with the little rich vein, I consider the indications for finding a large and profitable vein in a deeper level very favourable indeed. Stoping will be commenced on this ore as soon as possible, and the tunnel will be pushed ahead to connect with the Mammoth shaft." The 76 might be considered as a separate mine; here there were two levels, of which No. 1 was the lower; both those levels were reported in pay ore of $6 to $8 per ton, whilst two winzes sunk below the lower level carried a vein of 3½ ft., and fully worth $8, for which it appeared that the ore had a tendency to improve as it descended. Some further work must be done before the value and extent could be ascertained. The Rough and Ready, also a separate mine, had a strong and well defined vein of good quality. A cross cut tunnel had been started 500 feet below the present workings. This work, which was impeded very much during the winter, would now be pushed on. It might be said that the ground in this mine was scarcely more than scratched; it had a 4-ft. vein of $8 ore, and gave every promise of a prosperous future. The new mill was a very well constructed and solid building, and it might be said of all their works that, whilst money had not been unwisely economised, none had been needlessly expended. A great deal of economy in working depended on the proper construction of the works, and they would be able to reduce the ores in the new mills at a lower cost. On the score of expenditure Mr. Johns said :—

"Though the amount expended on improvements has been large for any one term, I am pleased to be able to state that the requirements of the property will not be likely to need any large outlays for improvements for a long number of years. In fact, the necessary improvements, except for the development of the Rough and Ready property, will be very limited hereafter."

He hoped they would deem the value of their property too fully shown to require any further remark from him. (Hear, hear.) The latest telegram received stated, "Eureka Mine unchanged; south drift continues excellent." In the Mammoth Tunnel the vein ran north and south; the north drift had been in good ore, and still was so, but the south drift had pinched out. This was an entirely new bed, which had not been found in any other portion of the works; and in a letter from Mr. Johns, dated March 16, he stated that the vein in the drift south of No. 3 winze was better than anything they had in the Mammoth Tunnel. The clean-up for the month of March in the Plumas Eureka was $54,893, and the expenses $22,157, leaving a profit of $32,736, or about 6500*l.* The shareholders would learn with regret that their worthy superintendent, Mr. Johns, had had a sharp attack of illness, very much due to over anxiety and too much work during the inclement weather. Mr. Coulter had used his endeavours to induce Mr. Johns to take repose, and the board had telegraphed to the same effect. He was sure the shareholders would join in expressing the hope that Mr. Johns would avail himself of the change, and take that relaxation from his duties necessary for the promotion of his health. (Cheers.) In conclusion, the Chairman moved the adoption of the report and accounts.—Mr. J. S. NEALL seconded the resolution.

Mr. COULTER, in reply to an observation from Mr. Surgey, said the mines were in a most prosperous condition at present, and the prospects for the future were most encouraging. The development in the Sierra Buttes Mine, principally in the lower levels, was an important point, and those developments were better and greater than ever since the discovery of the mine. Mr. Johns was a most efficient gentleman, and was assisted by a most able and efficient staff of employees. The Eureka Mine was one of the largest properties in California, and was regarded there as one of the most valuable, and he believed its future would develope far beyond anything which the shareholders had expected. The next most promising out of the four mines held by the company was the Rough and Ready; he went in there and found a very good vein, and if that were encountered in depth it would make it as valuable a mine as the Eureka. The facilities for working the mine were exceptionally good, and he believed the mines would continue to yield results which would be satisfactory to the shareholders. (Cheers.)

In reply to a further question Mr. COULTER said the properties were conveyed to this company under a United States patent, which was the most perfect title which could be secured. The most careful attention was being paid to the tailings, which were let to tributers, who last year paid the Eureka $12,000 for the gold taken from the tailings.

Mr. CONEYBEARE made a few remarks with regard to the position of the old and new Sierra Buttes shares.

A SHAREHOLDER asked whether the Plumas Eureka Mine had not paid 20 per cent.?—Mr. J. C. BOLTON said the shareholders were promised quarterly accounts, and if they had them they would answer the question put by the last speaker.

A SHAREHOLDER remarked that the report was entirely silent with regard to the arrangement made with regard to the management in California. They knew that the old arrangement with Messrs. Cross had lapsed, but what had taken its place?—The CHAIRMAN, in reply, repeated what he had said at the commencement of the meeting with regard to the management. Everything was secured, and Mr. Johns had been put into full and undisputed possession of all the property as general superintendent. With regard to the San Francisco work, Mr. Coulter had undertaken that himself, and he would probably return to California in a month or six weeks to resume his work there. In the meantime he had placed the whole of the company's monetary affairs in the hands of one of the managers of one of the banks there—but there was very little money there.

A SHAREHOLDER asked the distance between San Francisco and the mines?

The CHAIRMAN replied that it was about 200 miles.

The report and accounts were then adopted.

On the motion of the CHAIRMAN dividends of 1s 6d. per share on the Sierra Buttes shares, and of 3s. per share on the Plumas Eureka shares were declared, payable on and after the 18th instant.

The CHAIRMAN proposed the re-election of Messrs. C. Liddell and C. Wright, the retiring directors.—Mr. SURGEY seconded the proposition, and it was carried.

A cordial vote of thanks having been passed to the Chairman and directors, and to Mr. Johns, the general superintendent of the mines, the proceedings terminated.

LONDON AND CALIFORNIA MINING COMPANY.

The ordinary meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Thursday,

Mr. LEWIS R. PRICE in the chair.

Mr. JOHN SAUL (the secretary) read the notice convening the meeting. The reports and accounts were taken as read.

The CHAIRMAN said, during the half year ending Dec. 31 last, the accounts for which period were now submitted to the shareholders, the stopes had yielded about the same quantity of ore as usual, and after paying all the working and prospecting expenses, and a sum of 350*l.* occasioned by a change of agency and travelling expenses, there remained a profit of 965*l.* 1s., against 552*l.* 2s. 10d. in the previous half-year. The ore crushed was 2236 tons, of an average yield of $16 1 cent, against 2231 tons and a percentage of $15 53 cents, so that the quantity of ore was somewhat less, and the average value greater. There was very little change in the mine. The east shaft had not developed anything of any interest, and at the point now reached the vein indeed seemed to be very much broken and mixed with slate. There were two ways in which further explorations was to be prosecuted—one was by the cross cut which had been started in a westerly direction to cut the other vein at the level to the depth of the shaft. The working of the shaft had been suspended for the present in order to allow the level to get out of the way of the shaft, but as soon as this was sufficiently advanced the shaft would be continued. The indications at the shaft, although not quite so favourable, might change as the shaft deepened, and he was told by Mr. Coulter, who had some conversation with Colonel Hayward, the owner of the celebrated Hayward-Amador Mine, that that gentleman had explained that all the pay-shoots on this lode were at almost fixed intervals, and he was sure that when they got below the broken ground they would find pay ore in the Original Amador Mine. A more immediate development might, however, take place near Bunker Hill, to which Mr. Johns referred, and mentioned some 80 ft. of ore standing near there. This was a vein of 5 ft. wide, and Mr. Johns thought as it penetrated further into the mine the vein might probably widen. For some time past, with the sanction of the shareholders, the directors had retained the small amount of money accumulated, instead of dissipating it in a dividend. They had the double object in view in doing this of either spending the money on any discovery which might be made in the Original Amador Mine, or in acquiring some fresh property. There had as yet unfortunately been no demand for the money with regard to the Amador Mine, but as the shareholders were aware, the directors had purchased the two mines—Seaton and Maryland. They had but little latitude for their selection, as they were restricted to the purchase of mines "contiguous or conveniently to be held," and the amount of capital at their disposal was too small to admit of the purchase of any considerable or well developed mine. These mines cost the company 5400*l.*, or with the expense yet to be incurred, probably 6000*l.*, which sum the directors considered would not be exceeded. Mr. Coulter negociated the purchase for the company, and the directors were satisfied that he had done very well indeed in the matter. They had also had the cordial co-operation of Mr. Johns and his brother at the Amador Mine. The value of these two mines must not be estimated by their very small cost to the company, as they might turn out to be extremely good and remunerative properties. He thought that if the shareholders had read carefully the reports of Mr. Johns and of Captain Hosking they must form the opinion that the directors were thoroughly justified in the purchase. (Hear, hear.) They would have liked to have had the sanction of the shareholders before the purchase was made, but it could not be done, as the reports were not made until recently, and the publication of them might have interfered with Mr. Coulter's negociations, and perhaps have ended them altogether. The mines were contiguous, and formed an ownership of 2550 ft. on the lode. It had a good outcrop, and was a strong unbroken vein. One very important thing was that the lode was found between slate and greenstone, which was the best formation that it could be found in for finding good pay ore. Another important advantage was that it possessed great facilities for working, such as a good slope and ample command of supplies and labour. They were assured that a considerable quantity of good ore had been taken out by the former owners from the mine, and they had the testimony of Captain Hosking, who was now the underground manager at Plumas Eureka Mine—a very intelligent man, who was working in Seaton Mine at the time it was closed—stating that the stoppage was due to the increased flow of water, and not at all to the exhaustion of the mine, and he has no doubt that the ore left there to his knowledge will be found in the north level. The pay shoots in this mine were dipping north, and therefore it became very desirable to secure the Maryland Mine, which was contiguous to Seaton, and if anything were discovered in Seaton it would probably run into Maryland. Capt. Hosking entertained a favourable view of this mine also, but could not speak in such positive terms with regard to it, as he did not actually work in it as he did in Seaton. Although one could not be too careful in speaking of an undeveloped mine, it would seem that there was something more than blind venture in their recent purchase—(hear, hear)—and there was a very reasonable ground for expecting a profitable mine. The work of clearing out the old levels and shafts had been commenced, and some time must elapse before the old workings could be reached and the bottom of the mine laid open, and until this was done they would not be able to satisfy themselves as to its precise value. The general opinion of many practical miners in California, however, was that the vein of the mother lode was universally favourable to their mines. (Hear, hear.) This purchase was entirely within the power of the directors, and it would, therefore, be unnecessary to submit any special resolution, and he would merely ask them to adopt the report and accounts, which would imply their approval of the purchase. The general telegram which had been received lately stated—"Original Amador unaltered; prospects very encouraging at Seaton and Maryland." That was from Mr. William Johns, their general superintendent. The Chairman also read a letter from Mr. Richard Johns, dated March 22, 1879, speaking very encouragingly of the two new properties, and congratulating the shareholders on their purchase, and then moved the adoption of the report and accounts.—Mr. CHARLES WRIGHT seconded the motion.

Mr. COULTER said, so that there should not be any misapprehension as to the Seaton and Maryland Mines, he would like to say to the shareholders that Mr. William Johns, the general superintendent of the company's properties, specially recommended their purchase, and, indeed, the purchase was undertaken after he had very carefully made a personal examination of the mine, and had consulted his half-brother, Mr. J. R. Johns, the superintendent of the Original Amador Mine, and Capt. Hosking, who had worked in the Seaton Mine up to the time that it was closed. The reason of the closing of the mine was not in consequence of any failure in the remunerative character of the property, but simply because the water got into the shaft in such quantities that the men could not work them. The mines were owned by, comparatively speaking, poor men, whose means were limited, and they were not able to put up machinery to drain off the water. He did not want to say too much about these mines, but he had made careful enquiries about them from parties in and about Amador City, and also from men in other parts of California, and he had heard but one testimony in regard of the properties the company had just acquired; and the belief among practical miners in California—whose opinion was better than that of any professional man—was that the company had obtained a very valuable property in the acquisition of these two mines. As the Chairman had said, their value was not to be measured by their insignificant cost, for they could now be sold for a very much larger sum than they cost the company. (Hear, hear.) The shareholders must not expect any sudden returns from these properties, for it would take months to demonstrate their probable value, but he thought within a year they would have returns from these mines. Veins of valuable ore existed in both properties; but having remained in an unproductive state for about eight years the old works had become dilapidated, and the shafts and tunnels had caved in, and it might be deemed advisable to sink a new shaft on each of the properties than to patch up the old work. It was the belief of miners in California that the properties would become very valuable, and his hope was that these two mines—irrespective of the Original Amador, which still held out good prospects for the future—would bring out this very unfortunate undertaking to a good condition. He was anxious to do everything in his power to bring about this result. His individual interest was larger, perhaps, than that of anyone else, and for that reason, if for no other, he would be anxious to make the company profitable, but it had not been a personal matter to him, for he felt for the shareholders. Mr. Johns and himself visited the mine several times together recently. He had walked over the surface of the veins making their appearance on these properties, and very large veins they were too. (Hear, hear.) One of the chief difficulties in the Original Amador Mine was that the ravine came in, and the vein was very much broken and disturbed, and they would have to go much lower before they got into undisturbed ground; but when they did this it was the opinion of practical miners that they would still have a valuable mine in Original Amador. The mine was paying its way and leaving a small profit, and he did not believe the shareholders would have to be called upon for any money whatever for the new properties which had been purchased, and would be developed out of the accumulated profits. (Applause.)

The CHAIRMAN, in reply to Mr. Percival Smith, stated that the machinery necessary to work the Seaton and the Maryland Mines would probably cost 10,000*l.*, raising the amount to 16,000*l.* out of 22,000*l.* accumulated. The greater part of the 10,000*l.* would only be spent after the properties had been tested by the judicious and practical men out there. The Original Amador was now paying its way and yielding a profit of something over 2000*l.* a year, and the works were being prosecuted there with every prospect of success. (Hear, hear.)

Mr. COULTER mentioned that about $5,000,000 worth of ore had been taken out of the Hayward-Amador Mine.

The report and accounts were then unanimously adopted.

Votes of thanks having been passed to the Chairman and directors, and to Mr. Coulter, the proceedings terminated.——

PARYS MOUNTAIN MINES COMPANY.

A special general meeting of shareholders in this company was held at the offices of the company, Finsbury-circus, on Wednesday,

Mr. J. Y. WATSON, F.G.S., in the chair.

The notice of meeting having been read,

The CHAIRMAN stated that some little delay had occurred in carrying out the resolution of the last meeting, as the directors had to proceed under legal advice, and were anxious to see whether the proposed scheme would really succeed before calling the meeting to wind-up the old company; and they were now happy to report that the new company was a success so far as capital was concerned, and as the funds of the old company were all exhausted, the shareholders, instead of having to wind-up and get nothing, would now have fully paid-up shares *pro rata* in a new company, and with ample funds to carry it to a successful issue. He also explained that it would take about three months to get under the great open cast.

The Solicitor to the Company having read *in extenso* the agreement referred to in the third resolution, the following resolutions were unanimously passed and adopted :—

1.—That the Parys Mountain Mines Company (Limited) be wound up voluntarily.

2.—That Francis Reed Wilson, of 30, Finsbury-circus, E.C., and Charles Broughan Parry, of Gracechurch Buildings, Gracechurch-street, E.C., be and they are hereby appointed liquidators for the purpose of winding-up the affairs of the company and distributing the property, and that any one of them may exercise all the powers of the liquidators.

3.—That the draft of an agreement intended to be made between this company of the first part, the said F. R. Wilson and C. B. Parry of the second part, and the Parys Copper Corporation (Limited) of the third part, and the Memorandum and Articles of Association of the said company, called the Parys Copper Corporation (Limited), which has been recently incorporated under the Companies Acts, 1862, 1867, and 1877, as a company limited by shares by the said name, with a capital of 45,000*l.*, divided into 45,000 shares of 1*l.* each, and one of whose objects is to purchase, take over, or otherwise acquire, assume, or undertake, wholly or in part, all or any part of the undertaking, mines, property, business, rights, assets, and liabilities of this company, having been read to the meeting, and the said draft agreement and a copy of the said Memorandum and Articles of Association having been identified by the signature of the Chairman of the meeting in the margin thereof, the liquidators be and they are hereby authorised, pursuant to section 161 of the Companies Act, 1832, to sell to the Parys Copper Corporation (Limited) upon the terms of the said draft agreement, with such (if any) modifications or alterations as the liquidators may think fit, all the business and property of this company, and to execute and do all such assurances and things as may be necessary for carrying the said agreement into effect.

A vote of thanks to the Chairman terminated the proceedings.

[For remainder of Meetings, see to-day's Journal.]

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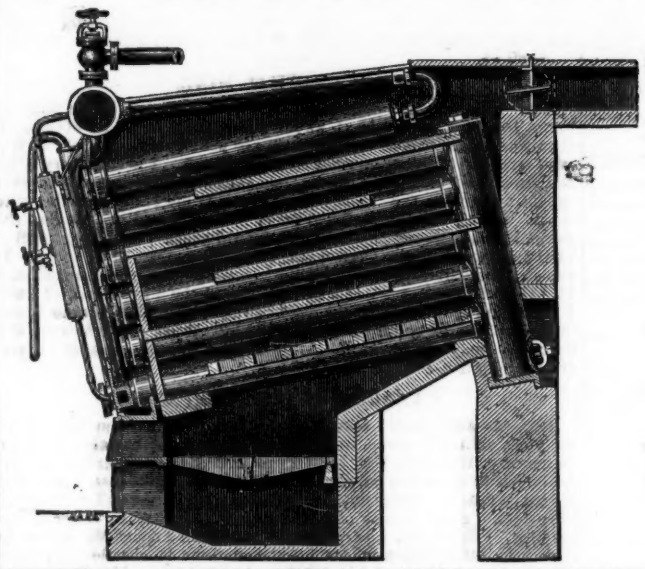

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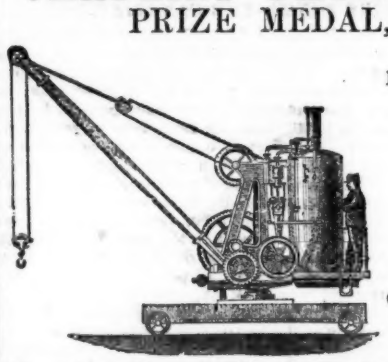

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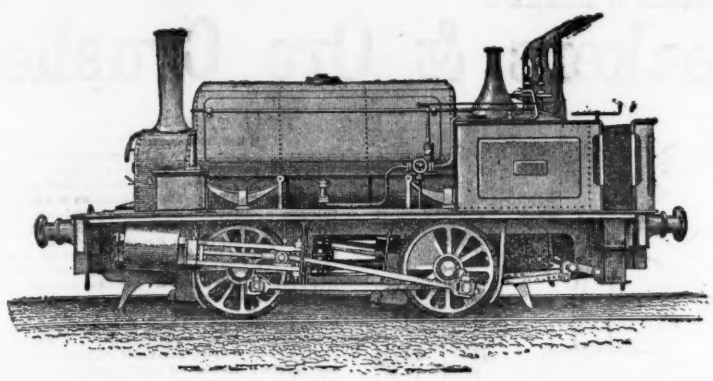

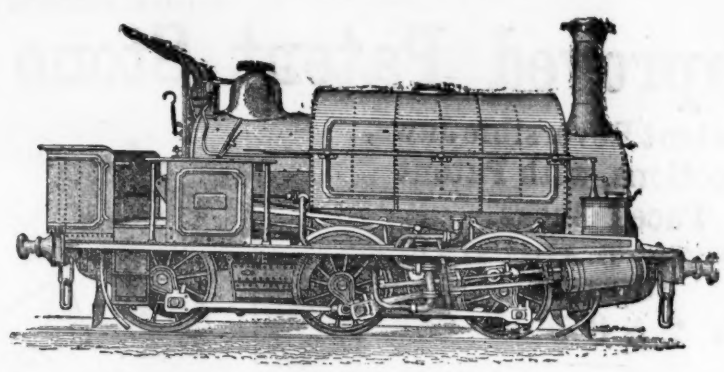

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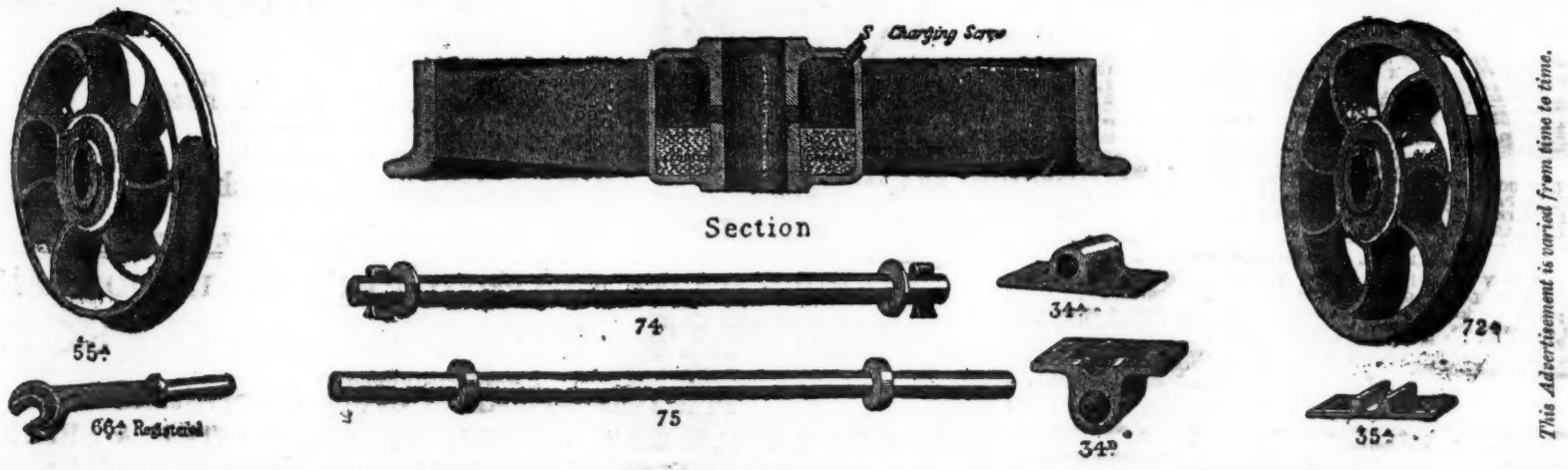

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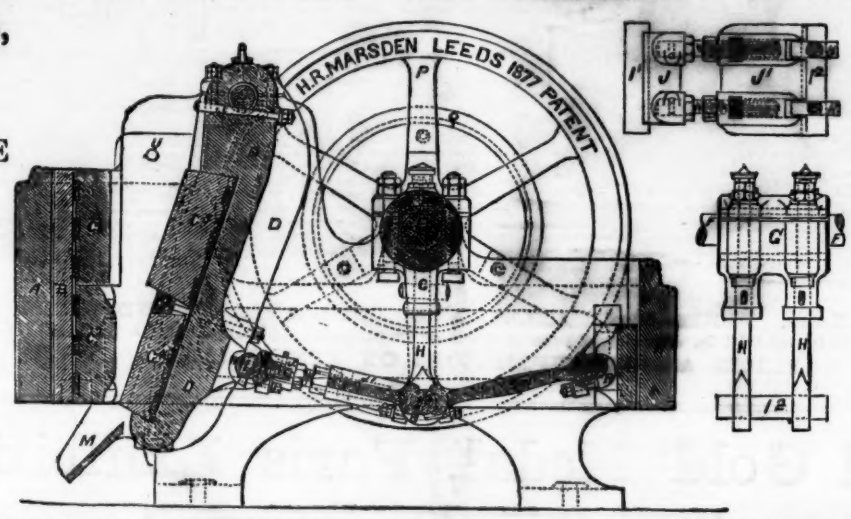

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I am, dear Sir, yours very truly,
WILLIAM MILLER.

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DEAR SIR,—We are in receipt of your letter of 4th inst. I may just state that the stone breaker above named has been under my personal superintendence since its erection, and I have no hesitation in saying that it is as good now as it was five years ago.

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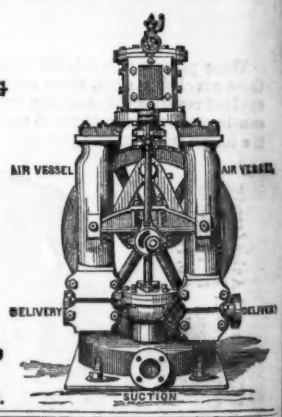

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